

April 24, 2008 Summary of the Utah Mercury Work Group Meeting

MERCURY WORK GROUP MEMBERS PRESENT

John Whitehead, Chairman	DEQ/ Division of Water Quality
Walt Donaldson	DNR/ Division of Wildlife Resources
Paul Dremann	Trout Unlimited
Mark Martin (Alternate)	Department of Agriculture & Food
Bruce Waddell	Duck Clubs
Jason S. Walker	N.W. Band of the Shoshone Nation
Chris Cline	U.S. Fish & Wildlife Service
Dave Naftz	U.S. Geological Survey
Tim Wagner	Sierra Club
Scott Everett	DEQ/ Division of Environmental Response & Remediation
Sam LeFevre (Alternate)	Utah Department of Health
Jeff Salt	Great Salt Lakekeeper
James Campbell	PacificCorp
Kevin Okelberry (Alternate)	Salt Lake Valley Health Department
Steve Packham (Alternate)	DEQ/ Division of Air Quality
Bill Johnson	University of Utah

OTHERS PRESENT

Amy Dickey	DEQ/ Division of Water Quality
Jodi Gardberg	DEQ/ Division of Water Quality
Aaron Redman	Hydro Qual
Clay Perschon	DNR/ Division of Wildlife Resources
Bill Sinclair	Department of Environmental Quality
Jim Berkley	U.S. Environmental Protection Agency
Chris Montague	The Nature Conservancy of Utah

1. Call to Order, Roll Call of Utah Mercury Work Group, Audience Introductions:

John Whitehead of DEQ Division of Water Quality (DWQ) called the meeting to order and welcomed all in attendance. Roll Call of the Work Group was taken and the audience introduced.

2. Approval of the January 31, 2008 Meeting Summary:

John Whitehead, DWQ asked if there were questions or comments concerning the January 31, 2008 Meeting Summary. Bruce Waddell, Duck Clubs had a correction, the historic data from Lake Powell was collected by the U.S. Fish and Wildlife Service not the Division of Wildlife Resources.

3. Mercury Conference – Status Report

Jeff Salt, Great Salt Lakekeeper had no specific updates but reminded the group that the plan is to invite all interested parties whether its non-profit, governmental, industry, academic and representatives from interested organizations throughout the West to talk about western related mercury issues. The idea is either to have this either in Salt Lake City or Park City.

4. Newcastle Reservoir Sediment Core Study

Dave Naftz gave a presentation titled "MERCURY IN WATER AND SEDIMENT CORES IN NEWCASTLE RESERVOIR". The presentation included water column profiles, trout distribution by depth and sediment core results. The presentation is posted at this web address: http://www.deq.utah.gov/Issues/Mercury/prior_meetings.htm

He mentioned that the USGS published an article in the journal, Applied Geochemistry, of Great Salt Lake Mercury results

Comments from the Work Group:

Chris Cline, USFWS asked if there are watershed contributions of Hg to the reservoir that promote sedimentation and erosion such as land uses, mining, or logging. She inquired whether it is atmospheric influence or a watershed influence.

Dave Naftz, USGS pointed to Abandoned Mine Land (AML) program work the USGS has done in southwestern Utah. He mentioned that there are certain deposits that contain Hg but didn't know of watershed contributions

Chris Cline, USFWS added that if sources in the watershed were identified then it is possible that they could be addressed through NPS Best Management Practice to reduce that loading.

Walt Donaldson, DWR commented the division can adjust fisheries species issues but added that the state is still addressing the symptom instead of the problem. He said that DWQ has struggled to get appropriations from the legislature for Hg issues and suggested with this kind of data the group could approach the legislature with a proposal to address the Hg problem from a watershed approach. DWR can move fish around, stock them earlier, do all kinds of things but until the state starts to address the sources and the watershed we will continue to have problems

John Whitehead, DWQ added that this is a targeted location for an in depth study if there was funding to do so.

Jeff Salt, Great Salt Lakekeeper asked if the USGS has data of reservoir operations, drawdown and recycling of the total water supply in Newcastle reservoir.

Dave Naftz, USGS replied that a local irrigation company manages the reservoir and he assumes the irrigation company does keep records. He said that they are drawing down a lot of water and recycling it every year so there must be a significant contribution coming in if they're filling up the reservoir every year.

Walt Donaldson, DWR commented that we need more information. We have the USGS study but this issue needs more resources because it bigger than one agency

Dr. Sundwall, DOH asked the group if they could help the Governors Office of Economic Development to understand the states problem with Hg. He received a call from the legal counsel

for GOED asking what the state is doing to warn fishermen about mercury poisoning. They are worried about economics and tourism. He suggested that the DOH, DEQ and DNR should be able to pool some funding and resources and in addition, go to the legislature together. He has heard that this is a problem in many states. He expressed his appreciation for the work group's efforts.

Jason Walker, Shoshone Nation commented that spikes in the data could be due to large wildfires in the area. It loosens up the dust, and with huge run-off, it fills the reservoir.

Chris Cline, USFWS inquired about the lake profile for the reservoir and asked if the reservoir was an eutrophic system.

John Whitehead, DWQ replied that Newcastle is a listed reservoir for nutrients and DO there is TMDL study. He said the DO profile is limited in the summer season. He suggested that this created reducing conditions and low DO and everything else that would methylate Hg.

5. DEQ Mercury Assessment Protocol

Chris Bittner, Utah Division of Solid & Hazardous Waste, informed the group that the state mercury protocol is completed and available on the DEQ website. He said that the document is a living document meaning that it will be continually updated in the future.

6. Selected Data Results from 2007 Fish Sampling

Jeff Ostermiller, DWQ gave a presentation posted at this web address:
http://www.deq.utah.gov/Issues/Mercury/prior_meetings.htm

Comments from the Work Group:

Paul Dreman, Trout Unlimited asked if DWQ was using the state's GIS system. He suggested that the fish tissue sampling data could be a digitized and overlain on other layers such as the mine sites and other DWR activities.

Jeff Ostermiller, DWQ commented that DWQ has extensive data for streams and the rivers where mercury fish tissue has been collected. He agreed that it would be useful if all agencies provided in written format the variables of data so the group could look for specific gaps of data missing. He added that it would be a simple task to pull that layers together and get summary statistics.

Paul Dreman, Trout Unlimited added that the angler's coalition could be an active cooperator in the process. He asked Walt Donaldson, DWR about the watershed initiative program that deals with rangeland improvement and sagebrush. He asked if this could be a funding source for a Hg study.

Walt Donaldson, DWR replied that it could be a source, possibly riparian restoration. In the past, it has been focused on sediment control and sedimentation

Jeff Salt, Great Salt Lakekeeper added that another agency to partner in this effort for data collection and fund raising would be NRCS because they've done a lot of watershed characterization and with their watershed prioritization on the state level, they know where some problem areas are.

There are also wildfire management teams of different agencies that collect data on fires and after effects of fires.

Chris Cline, USFWS added that USFWS and USGS in the past have looked at metals accumulation in macroinvertebrates and there are some datasets around for the GSL and other fresh water areas. The data indicates that macroinvertebrates pick up metals and mercury, particularly. She added that if a lot of mercury is put into the watershed the impacts on habitat quality such as a decrease in the macroinvertebrate populations sediment ingestion by the fish could be significant sources depending on the species.

Walt Donaldson, DWR asked if atmospheric deposition could be differentiated from terrestrial types and the cost to fund the atmospheric deposition part of the study

John Whitehead, DWQ replied that DAQ is starting to do Hg air monitoring. They have begun a wet deposition weather station in Salt Lake. The legislature provided funding for a dry deposition monitor, as well, but that's just one monitor.

Jeff Ostermiller DWQ added that analytically, it could be addressed. There are many sites with high Hg levels in the fish tissue within the watershed, yet some places have high levels and some don't. There is obviously an atmospheric deposition signature going on in the background so that is something else to consider particularly two neighboring reservoirs that differ dramatically with regards to concentration within the same fish and the same sizes.

Chris Cline, USFWS added that the study should look at the effects levels of mercury on the organisms. The effects level for human consumption is 0.3 ppm but what are the effects level for fish growth reproduction and survival.

7. Legislative Status: Mercury Funding Request

Bill Sinclair, DEQ gave a summary of legislative funding for Hg work. He said that for the legislative session that just ended in March, DEQ requested monies regarding mercury and added that this was the second year going to the legislature for funds. Last year, DEQ was successful in getting monies to purchase a wet air deposition monitor for the Air Quality Monitoring Center. Unfortunately, the monitor only works when there are precipitation events. This year DEQ put in an additional \$100,000 request for a dry deposition monitor. The monitor has the advantage of being mobile. The Governor recommended this particular funding, both the \$100,000 and the \$19,000 of General Funds for purchasing, monitoring and maintaining it. DEQ appropriations subcommittee is composed of the Department of Transportation, Veterans' Affairs and the National Guard for one time general fund monies. Another building block DEQ requested was to continue mercury fish tissue sampling at an estimated cost of \$21,500 a year on an ongoing basis. Once again, the Governor recommended it in his budget for priority from the appropriations subcommittee. Lastly, DEQ requested monies to implement the source assessment protocol at an estimated cost of \$40,000 a year on an ongoing basis. Once again, the Governor recommended it in his budget for priority from the appropriations subcommittee. The outcome was \$100,000 for one-time general funds to purchase the mercury dry deposition air monitor. Fish tissue sampling and analysis and ongoing fund money for the source assessment were not funded. He said he appreciated the discussion about bringing together resources, working together as a group to try to find monies to

address the issues that we have. He said DEQ will re-prioritize funding to address the fish tissue sampling so that it will continue.

Comments from the Work Group:

Paul Dreman, Trout Unlimited added that the Utah Anglers' Coalition and the Governor's Fisheries Advisory Council could get involved with the legislative process

Bill Sinclair, DEQ added that one-time general funds are a lot easier to get than ongoing general funds.

A discussion was had by the work group to determine if there are better sub appropriation committees to request funding such as UDOH or DWR.

8. Utah, Nevada and Idaho Lake Hg Methylation Factors Study

Amy Dickey, DWQ gave a presentation titled Mercury Cycling in Aquatic Ecosystems. The presentation is posted at this web address http://www.deq.utah.gov/Issues/Mercury/prior_meetings.htm

Comments from the Work Group:

Clay Perschon, DWR added that the group should research the potential impacts on egg development in the fish. He expressed concern for Blue Ribbon waters and the effects on natural reproduction.

Chris Cline, USFWS added that toxicity is species dependent and there is a range of sensitivity for every toxin.

Someone added that there might be a relationship between phytoplankton and the decomposition of phytoplankton with hydrogen sulfide production.

9. Re-visit Mercury Workgroup Goals & Objectives

Tim Wagner, Sierra Club reviewed the goals and objectives that the Mercury Work Group Goals Subcommittee put together in August 2006. He reviewed the general framework consisting of three parts. Part one was to identify human risk. Part two was source delineation and part three was source minimization. In terms of the 3 main parts he said the work group was proceeding well in terms of data collection establishing protocols. He said that we need to begin working on the other 2 parts and summarized the discussion of the workgroup, bringing together GIS, macroinvertebrate information, species information, air deposition etc. He asked the group how we could proceed considering the funding issues. He suggested a group wide strategy for funding, possibly a presentation to a legislative committee about the importance of the Hg work. He suggested that the group look at the issue from an economic development perspective to get more support from the legislature.

Chris Cline, USFWS suggested that we pinpoint areas of the state where local sources seem to be the highest and look at statewide data to focus on those areas with the highest source potential and add that with basic economic values of natural resources. USFWS has economists and models that puts an economic value on some of these different issues like impact on fisherman. This could impress

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someone who is coming at it from an economic development perspective. If there are potential source areas and particular source categories with the largest potential of causing economic harm to the state both in terms of damage to natural resources, sustainability and desire of the public to use those resources, factors that could prioritize funding and need.